rheumatic heart disease showed significant reduction in value of EF while those with ischemic heart disease showed constant means of EF value even they show progressive increase in their readings on period of follow up, the means of EF for all pattern of heart disease on one week, one month & on three months (51.7%, 53.26%, 56.34%) respectively. There were many parameter studied to find its burden on systolic function (HTN, DM, Smoking & kat chewing) but the study revealed that all of which have effect on EF value but the most important & that which had significant effect is LVEDD pre operatively, the EF showed reduction post operatively as the LVEDD is big before surgical intervention.

***Conclusion:*** There is reduction in cardiac systolic function when it is evaluated after open cardiac surgery but this reduction seen to be improve after weeks of operation, so immediate evaluation not reliable in assessment of outcome of cardiac surgery & assessment of left ventricular functions, considering all surgical & para-surgical effects on left ventricular function.

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## Long-term of outcome of cardiac pacing in neonates

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***Background/Hypothesis:*** The advent of technology has made it safe to implant pacemakers (PM) in children. However, safety of neonatal PM implantation is unclear. We aim to report our experience with neonatal PM implantation in regard to visibility and long-term outcome.

***Methods:*** We performed a retrospective analysis of patients (PTS) who underwent PM implantation during the first month of life at our institution. The data obtained: demographics, diagnoses, indications for pacing, follow-up, and PM revisions.

***Results:*** Between April-1988 and May-2011, Twenty-nine neonates (15 males) underwent PM implantation, median age 14 days (range 2–30) weight 3.1 Kg (range 2–4.5). The indications for pacing were: surgical AV block (12), congenital AV block in (16), and Long QT syndrome (1). All PM's were epicardial single chamber system with abdominal pocket and VVI mode. The median pacing threshold at implant was 0.8 V at 0.5 ms (range 0.5–1.7). There were no PM infections, wound dehiscence or PM related mortality; however there were three deaths after palliation for complex congenital heart disease. The PTS were followed for 7 years (1–24) during which 15 revisions were done for 13 patients. The initial revision was needed after median of 5 years (4–9) for battery depletion (10), upgrade (2), and lead malfunction (1). One PTS developed cardiomyopathy after 3.5 years of pacing and improved with cardiac resynchronization.

***Conclusion:*** Pacemakers are a safe in neonates including low birth weight.

Pacemaker related morbidity and mortality are rare however longer follow up is need to assess the effect of pacing on ventricular function.

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## Therapeutic role of mobilized bone marrow cells children with non ischemic dilated cardiomyopathy

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Dilated cardiomyopathy is an important cause of congestive cardiac failure in infants and children. Mobilizing hematopoietic progenitor cells is a promising intervention to this deadly disease. Aim of the work: to evaluate the granulocyte colony stimulating factor (GCSF) as a therapeutic modality in children with idiopathic dilated cardiomyopathy (IDCM). subjects and methods: This case control prospective study was conducted on 20 children with IDCM following up at cardiology clinic Children's Hospital, Ain shams university (group 1) who were compared to another ten age, sex, duration of illness and systolic function matched children with IDCM as a control group (group 2). They were subjected to history taking, clinical Examination, echocardiographic study of the left ventricle and cluster of differentiation thirty four T (CD34+) cells assessment in peripheral blood before and one week after granulocyte colony stimulating factor intake for five consecutive days by group1. GCSF was not given to group 2. Results: a significant improvement in echocardiographic data and increase of the CD34+T cells was found in group 1 patients post granulocyte colony stimulating factor intake one week after GCSF intake and for the next 6 months but not in group 2. The percentage of change of the CD34+T cells showed no significant correlation with the percentage of change of the left ventricular dimensions and systolic function.

***Conclusion:*** Administration of GCSF to children with IDCM resulted in clinical and echocardiographic improvement that was not correlated to the mobilized cluster of differentiation thirty four T cells, implying the involvement of additional mechanisms than simple stem cell mobilization.

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## S-100 B protein and perioperative brain injury in infants and children undergoing open heart surgery using cardiopulmonary bypass

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Neurodevelopmental problems in patients with congenital heart diseases (CHD) have become focus of an increasing concern. Aim of the study: to assess level of S100B protein as a brain damage marker in patients with CHD undergoing cardiosurgical procedures. Patients and methods: Fifteen patients (eight with cyanotic and seven with acyanotic heart disease), mean age of 4.8 + 3.9 years, neurologically free admitted for procedures involving CPB were enrolled in the study, and 30 healthy children as a control group. S100B protein levels were assessed before operation, 1/2 an hour after CPB and 24 h after operation as well as heart rate, bloodpressure, hematocrite, central venous pressure (CVP), PO2 and PCO2.

***Results:*** S100B protein was significantly elevated in patients 1/2 an hour after CPB, beforeand after operation than controls with highest values 1/2 an hour after CPB ($P < 0.0001$, $P < 0.001$ and $P < 0.001$ respectively). Also, it was elevated in cyanotic compared to acyanotic group ($P < 0.001$). S100B protein 1/2 hour after CPB correlated positively with aortic clamping time, and negatively with body temperature.

***Conclusion:*** patients with CHD are liable for subtle brain damage which increases during surgical intervention as evidenced by increased S100B protein. This elevation is related to aortic clamping time and core temperature during cardiac surgery.

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## Corrected qt interval in normal egyptian neonates: Comparison to corrected qt interval of other ethnic groups

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Long QT syndromes (LQTs) is a familial cardiovascular disorder characterized by abnormal cardiac repolarization and sudden death from ventricular fibrillation Possible acquisition of standardized neonatal screening method to identify children with (LQTs) has led to interest in establishing normal values for neonatal QT intervals.

***Aim of the work:*** to compare corrected QT interval in normal Egyptian neonates to published values of other ethnic groups.

***Subjects and methods:*** This cross sectional study was conducted on neonates following up in Children's Hospital Ain Shams University, with post natal ages ranging from 8 to 28 days (mean 13.91 ± 3.97 days). They were subjected to: history taking, clinical examination, Echocardiography and 12 lead ECG assessment of corrected QT interval using Bazetts formula Results: Cut off point of LQTc was >0.44 s, while that of short QTc was < 0.29 s significant increase in mean QTc values and LQTc %was found in upper Egypt than Delta (p 0.026, 0.01). Eighty five percent of neonates had normal QTc (0.300–0.450 s), 9% had LQTc (>0.45 s) and 6% had short QTc (<0.300 s) significant increase in short QTc was found in PT than FT while significant increase in LQTc was found in FT ($P = 0.020$, 0.019).

***Conclusion:*** Cut off point was >0.44 s for LQTc and < 0.29 s for short QTc in studied Egyptian neonates A higher percentage of patients with LQTc was found in Upper Egypt than Delta, and in FT than PT. Higher percentage of SQTc was found in PT than FT. Further studies are needed to confirm our results.

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## Coronary angiography safety between radial and femoral access

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Transradial coronary angiography has a lower incidence of access site complications, earlier patient ambulation, improved patient satisfaction, and lower cost. One of the major criticisms of the radial approach is that it takes longer; there are a longer overall procedure and fluoroscopy time, which means not only more staff will be exposed during the procedures, but they will also stand close to the patient where rates of radiation scattered by the patient are higher. The American Heart Association/American College of Cardiology clearly state that ''the responsibility of all physicians is to reduce the radiation injury hazard to their patients, to their professional staff and to themselves''. So, the aim of this study was to evaluate the safety of radial versus femoral artery approach in our institution's routine coronary angiography practice.

*Methods:* Allcases of diagnostic coronary angiography (CA) over a 23 months period at a tertiary care hospital (Cardiothoracic department, Spedali Civili, Brescia University, Italy) were reviewed for this analysis. Study population was stratified according to arterial access used to perform the procedure into 2 groups; radial group and femoral group. Access crossover was recorded and stratified based on the first route of access attempted.